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Jackson. Mr. Alger has also recognized some minute crystals of topaz on the green felspar. It appears, therefore, that the granite rocks of Rockport are far from being barren in minerals of scientific value.

A report from the Rumford Committee was presented, and, there being no quorum for the transaction of business, was referred to an adjourned meeting.

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**Five hundred and twenty-fifth Meeting.**

September 8, 1863. — ADJOURNED STATED MEETING.

The PRESIDENT in the chair.

The President read a letter from Professor Hitchcock, accompanying a memoir entitled "Supplement to the Ichnology of New England." Also a note from Professor Eliot, resigning his place as a member of the Rumford Committee.

Professor Lovering called up the recommendations of the Rumford Committee, which were read at the previous meeting and referred to this meeting for the action of the Academy. On the motion of Dr. Beck, it was

*Voted*, That the sum of three hundred dollars be paid from the income of the Rumford fund to Mr. O. N. Rood, to be used by him in making investigations on the subject of the physical relations of the iodized plate to light; — the results of these investigations to be communicated to the Rumford Committee, and to be offered by them for publication in the Memoirs of the American Academy of Arts and Sciences.

Professor Bond gave an account of the construction of achromatic object lenses by Dr. Steinheil of Munich, according to the method of Gauss; this being the first successful attempt at working lenses in the form proposed by Gauss for the correction of chromatic aberration, independently of spherical aberration. Lenses thus constructed have the advantage of combining large apertures with short focal lengths, and thus require only short telescope-tubes, which are least liable to errors from flexure. The thickness of the glass needed for producing lenses of the requisite curvatures is one of the chief difficulties in constructing this species of achromatic lens.

Professor Peirce presented an account of a ternary system of arithmetical notation, consisting of the three characters 1, 0, and  $\bar{1}$  (*minus one* being written in the manner of the negative characteristics of logarithms). This system has the same property as the binary system discussed by Leibnitz, namely, that of reducing the processes of multiplication and division to series of additions and subtractions. It would require to express the same values about twice as many figures as the decimal system; but, as these are the simple characters 1, 0,  $\bar{1}$ , they would occupy but little more room on the printed page.

Professor Peirce considered the probable consequences of an adoption of such a system for the uses of life, and thought that, if this notation could ever have come into use, it would have been converted into a system of nine figures by the union in pairs of the fundamental characters.

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**Five hundred and twenty-sixth Meeting.**

October 13, 1863. — MONTHLY MEETING.

The PRESIDENT in the chair.

Professor Bond presented a communication "On the new form of the Achromatic Object-Glass recently introduced by Steinheil."

In June, 1860, Professor Steinheil communicated to the Royal Academy of Sciences at Munich \* a notice of an object-glass of thirty-six lines aperture, executed at his optical establishment according to the system of curves proposed by Gauss in an article published in the *Zeitschrift für Astronomie* of Lindenau and Bohnenberger, in 1817.†

This telescope, and subsequently another ‡ of similar form, but larger, have been carefully tested, and, in the opinion of competent

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\* Sitzungsberichte der königl. bayer. Akademie der Wissenschaften zu München, 1860, II. 160.

† Lindenau und Bohnenberger, *Zeitschrift für Astronomie*, Nov., Dec. 1817, IV. 345.

‡ Sitzungsberichte, 1860, V. 662.